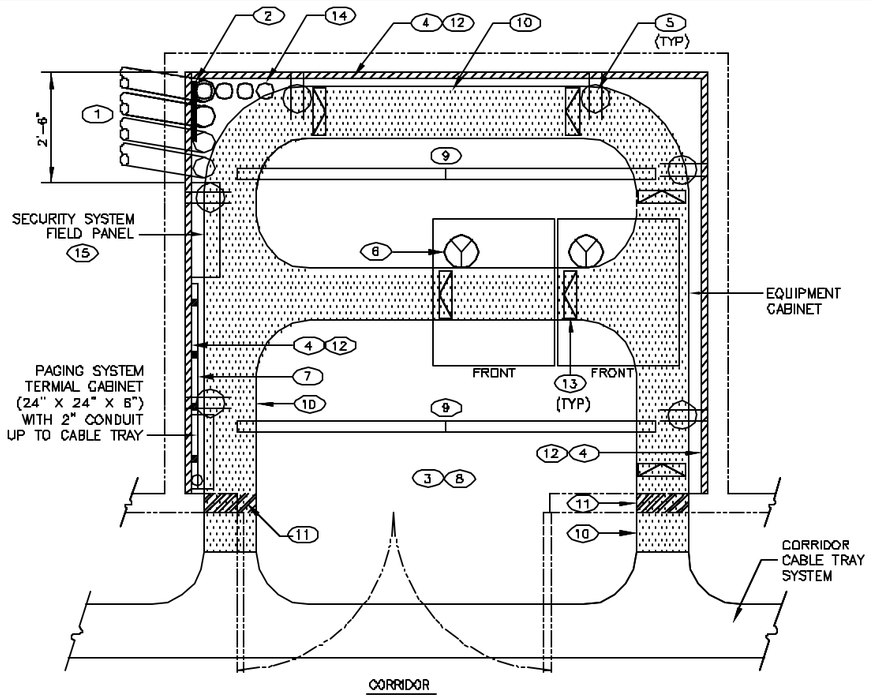
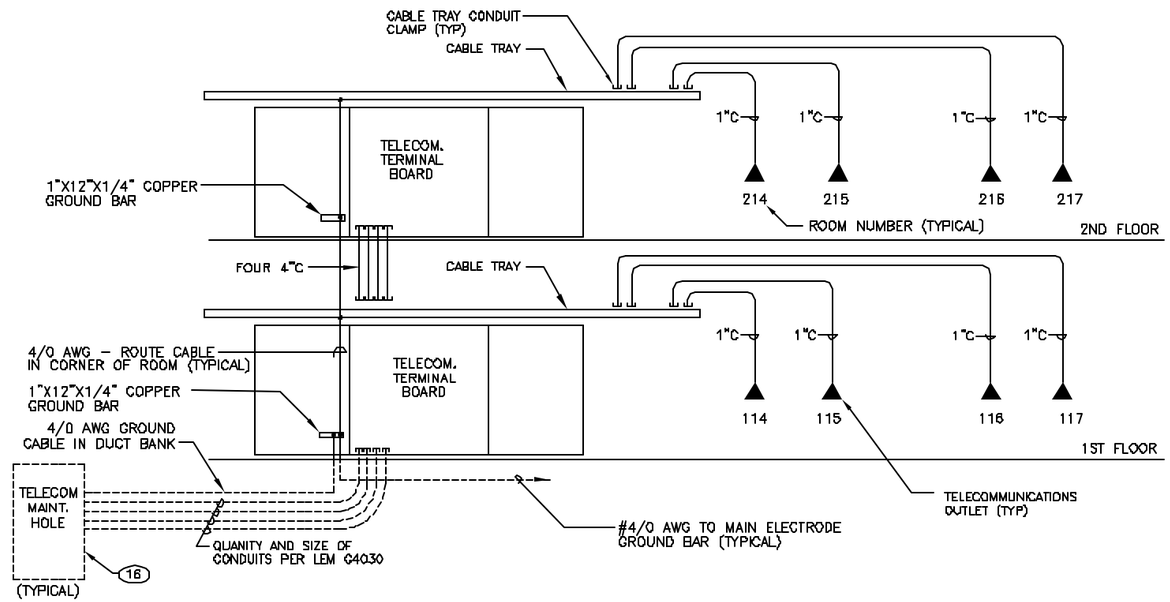


TYPICAL ENTRANCE TELECOMMUNICATIONS ROOM

SCALE: NONE



TELECOMMUNICATIONS RISER DIAGRAM

SCALE: NONE

KEYED NOTES

(8) PROVIDE VENTILATION OR AIR CONDITIONING TO MAINTAIN THE FOLLOWING CONDITIONS 24 HOURS PER DAY, 365 DAYS PER YEAR:
TEMPERATURE: 64° TO 75°
RELATIVE HUMIDITY: NON-CONDENSING
MINIMUM VENTILATION RATE: 1 AIR CHANGE PER HOUR.
PRESSURIZATION: POSITIVE

(9) PROVIDE MINIMUM 9'-0" CEILING HEIGHT; A FINISHED CEILING IS NOT REQUIRED. PROVIDE ILLUMINATION OF 50 FOOT-CANDLES MEASURED AT 3 FT ABOVE THE FINISHED FLOOR. MOUNT LIGHTING FIXTURES A MINIMUM OF 8'-6" AFF. USE LIGHT COLORED PAINT ON WALLS AND CEILING TO ENHANCE ROOM LIGHTING. FINISH FLOOR WITH LIGHT COLORED NON-SLIP VINYL FLOOR COVERING.

(10) PROVIDE 12" (MINIMUM) WIDE, 4" DEEP, LADDER TYPE CABLE TRAY WITH 6 INCH RUNG SPACING AROUND THREE INTERIOR WALLS OF THE ROOM AND ABOVE EQUIPMENT CABINETS. MOUNT TRAY 6 INCHES OUT FROM WALLS AND WITH BOTTOM 7'-9" AFF. USE BRACKETS THAT DO NOT EXTEND DOWN ON THE TERMINAL BOARD. BOND TRAY TO GROUND BAR WITH MINIMUM #2 AWG. EXTEND BOTH ENDS OF CABLE TRAY INTO BUILDING CORRIDOR CEILING SPACE. CONNECT TO CORRIDOR CABLE TRAY OR TO CONDUITS FROM OUTLETS. CONNECT CONDUITS TO CABLE TRAY USING NRTL LISTED CABLE TRAY/CONDUIT CLAMPS.

(11) RESTORE FIRE RATING OF WALL AND FLOOR AT CABLE TRAY AND CONDUIT PENETRATIONS. USE APPROVED MATERIALS AND METHODS.

(12) PROVIDE A CONTINUOUS GALVANIZED STEEL FRAMING CHANNEL ABOVE THE TERMINAL BOARD. LOCATE AT 8'-9" AFF. BOND THE CHANNEL TO THE GROUND BAR USING #6 AWG MINIMUM. CLAMP CONDUITS TO THE CHANNEL.

(13) PROVIDE SIX CABLE DROP-OUT FITTINGS PER TELECOMMUNICATIONS ROOM AT LOCATIONS DIRECTED BY THE LANL TELECOMMUNICATIONS GROUP.

(14) PROVIDE FOUR 4" CONDUITS WITH INSULATING BUSHINGS ON EACH END. EXTEND CONDUITS FROM THE LEFT REAR CORNER OF THE UPPER TELECOMMUNICATIONS ROOM DOWN TO 9'-0" ABOVE THE FLOOR IN THE LEFT REAR CORNER OF THE LOWER TELECOMMUNICATIONS ROOM.

(15) PROVIDE A DEDICATED 20A 120V CIRCUIT FROM ISOLATED GROUND PANELBOARD FOR SECURITY SYSTEM PANEL.

(16) ALIGN ENTRANCE DUCTBANK WITH EXISTING MAIN DUCTBANK TO ENTER MAINTENANCE HOLE. AVOID ENTERING SIDE OF MAINTENANCE HOLE.

KEYED NOTES

(1) INSTALL CONDUITS FROM POINT OF CONNECTION TO NETWORK (AS DETERMINED BY THE LANL TELECOMMUNICATIONS GROUP). TERMINATE THE CONDUITS WITH INSULATING BUSHINGS 4" ABOVE FLOOR IN LEFT REAR CORNER OF THE ROOM AND ADJACENT TO THE LEFT WALL. INSTALL 1200 LB. TEST PULL TAPE WITH STAMPED FOOTAGE IN EACH CONDUIT AND TIE OFF AT EACH END. PROVIDE TEMPORARY CAPS TO EXCLUDE CONSTRUCTION DEBRIS FROM CONDUITS.

(2) INSTALL 1" X 12" X 1/4" COPPER GROUND BAR WITH INSULATED STANDOFFS AND PRE-DRILLED WITH 1/4" HOLES IN LEFT REAR CORNER OF THE ROOM. INSTALL DEDICATED, THW INSULATED #4/0 AWG GROUND CONDUCTOR FROM GROUND BAR TO MAIN ELECTRODE GROUND BAR IN MAIN ELECTRICAL ROOM. MAKE CONNECTIONS TO #4/0 CABLE USING IRREVERSIBLE MECHANICAL CONNECTIONS OR EXOTHERMIC WELDS.

(3) PROVIDE TELECOMMUNICATIONS ROOM(S) ON EACH FLOOR WITH MINIMUM DIMENSIONS AS DETERMINED BY THE LANL TELECOMMUNICATIONS GROUP. THE FOLLOWING ARE EXAMPLE TELECOMMUNICATIONS ROOM SIZES:
ROOM SERVING UP TO 5000 SQ. FT.: 10 FT X 7 FT.
ROOM SERVING UP TO 8000 SQ. FT.: 10 FT X 9 FT.
ROOM SERVING UP TO 10,000 SQ. FT.: 10 FT X 11 FT.
PROVIDE LOCKABLE DOUBLE DOORS OPENING INTO A MAIN CORRIDOR. COORDINATE WITH ARCHITECTURAL DESIGN.
TELECOMMUNICATIONS ROOM(S) SHOULD BE CENTRALLY LOCATED, VERTICALLY ALIGNED, AND AS CLOSE AS POSSIBLE TO THE MAIN ELECTRICAL GROUND BAR.

(4) LINE THREE WALLS OF THE ROOM WITH SHEETS OF 3/4" APA GRADE A-B GROUP 1 SANDED INTERIOR PLYWOOD FINISHED WITH TWO COATS OF WHITE OR LIGHT GRAY FIRE RETARDING PAINT.

(5) INSTALL 120V DUPLEX RECEPTACLES AT 6 FT INTERVALS AROUND THE ROOM, 8 INCHES AFF.

(6) INSTALL A 120 VOLT, 20 AMP TWISTLOCK ISOLATED GROUND RECEPTACLE FOR EACH EQUIPMENT RACK; MOUNT ON CABLE TRAY. SERVE EACH WITH A DEDICATED 20A, 120V CIRCUIT FROM AN ISOLATED GROUND PANELBOARD.

(7) INSTALL DOUBLE CIRCUIT MULT-OUTLET ASSEMBLY WITH RECEPTACLES 12 INCHES ON CENTER AT 7'-6" AFF ON LEFT WALL. INSTALL TWO 20 AMP, 120 VOLT CIRCUITS TO EACH MULT-OUTLET ASSEMBLY FROM AN ISOLATED GROUND PANELBOARD.

DESIGNER:
EDIT TELECOMMUNICATIONS RISER DIAGRAM TO BE PROJECT-SPECIFIC. THE REQUIREMENTS IN KEYED NOTES 6, 7, AND 14 ARE TYPICAL BUT MAY VARY DEPENDING ON CONDITIONS. VERIFY REQUIREMENTS WITH THE LANL TELECOMMUNICATIONS GROUP. IN CONSTRUCTION DRAWINGS PUT THIS TELECOMMUNICATION ROOM PLAN(S) AND THE TELECOMMUNICATIONS RISER DIAGRAM ON SEPARATE SHEET PER THE LANL DRAFTING MANUAL.

ND	DATE	CLASS REV	DESCRIPTION	DWN	VER	CHKD	SUB	APP
1	11-19-02		NEW DRAWING NO., CORRECTED LAYERS, REVISIONS PER CCN-4 REPLACES ST-7005	SB	DP	DW	DP	TO

FACILITY & WASTE OPERATIONS
SYSTEMS ENGINEERING & MAINTENANCE

LANL ENGINEERING MANUAL

TELECOMMUNICATIONS ROOM PLAN
AND TELECOMMUNICATIONS RISER DIAGRAM

DRAWN	D.W. POWELL
DESIGN	D.W. POWELL
CHECKED	D. WITHERELL
DATE	08-22-02
BLDG.	TA-
SUBMITTED	DISCIPLINE POC: DAVID W. POWELL
APPROVED FOR RELEASE	STANDARDS MANAGER: TOBIN GRUCH
SHEET	OF

Los Alamos NATIONAL LABORATORY
PO Box 1663
Los Alamos, New Mexico 87545

CLASSIFICATION: UNC	REVIEWER: LARRY BAYS	DATE
PROJECT ID: CHAPTER 7	DRAWING NO: ST-D5030-1	REV: 1

NOT FOR CONSTRUCTION